

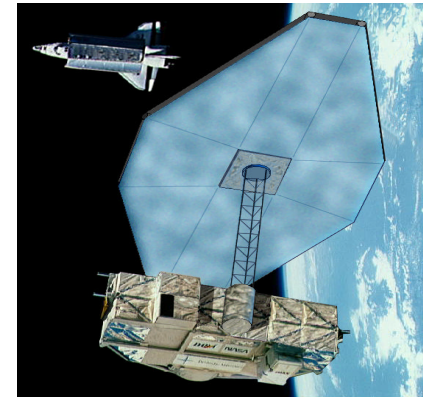
Flight Validation Experiments



Pathfinder 1- Inflatable Shield In Space Experiment

- ASTROSPAS STS-deployed free-flyer in 2000
- Validation of thin, multilayer membrane subscale sunshield in both the ground and space environments
- 4 technical drivers
 1. demonstrate controlled deployment
 2. thermal performance of multilayer shield
 3. end-of life emissivity of membranes
 4. dynamics
- Approach is to ground test, improve predictive techniques for removing gravity effects, and validate both tools and technology in space
- Leverages Inflatable technology program at JPL

ISIS



Pathfinder 3- Deployable Optics Flight Experiment

- SPARTAN 400 STS- deployed free flyer in 2003
- Demonstrate precision deployment and optical control of a 2-3m subscale segmented deployable IR telescope
- Collect data on zero G release of optics, joint nonlinearity, launch restraint effectiveness, and telescope vibration isolation
- Validate new cost curve and “art-to-part” design methodology
- Potential partnership with the NRO - in work

NEXUS

